

Patent Claims

1. A method for increasing the efficiency of surfactants through the admixture of additives having a water-soluble fraction and a water-insoluble fraction, characterized in that an AB block copolymer having a water-soluble block A and a water-insoluble block B is admixed as the additive.

2. A method for suppressing lamellar phases in the water-oil-surfactant mixtures, characterized in that an AB block copolymer having a water-soluble block A and a water-insoluble block B is admixed as the additive to the water-oil-surfactant mixture.

3. A method for stabilizing the temperature situation of the monophase area for water-oil-surfactant mixtures to which an additive is admixed in which an AB block copolymer having a water-soluble block A and a water-insoluble block B is admixed as the additive to the water-oil-surfactant mixtures.

4. A method for increasing the structural size of emulsified liquid particles in micro-emulsions, characterized in that a block copolymer having a water-soluble block A and a water-insoluble block B is admixed as the additive to the microemulsions.

5. A method for reducing the interfacial surface tension of oil-water mixtures containing surfactants,
characterized in that
a block copolymer having a water-soluble block A and a water-insoluble block B is admixed as the additive to the water-oil-surfactant mixtures.
6. The method according to one of Claims 1 through 5,
characterized in that
a compound having the structure according to the pattern AB, ABA or BAB is admixed as the block copolymer.
7. The method according to one of Claims 1 through 6,
characterized in that
a block B that is soluble in oil and that is soluble in aliphatic hydrocarbons is used.
8. The method according to one of Claims 1 through 7,
characterized in that
block A has a molecular weight between 500 u and 60,000 u.
9. The method according to one of Claims 1 through 8,
characterized in that
block B has a molecular weight between 500 u and 60,000 u.

10. The method according to one of Claims 1 through 9,
characterized in that
a polyethylene oxide (PEO) is used as block A.

11. The method according to one of Claims 1 through 10,
characterized in that
a polydiene or an at least partially hydrated polydiene is used as block B.

12. The method according to Claim 11,
characterized in that
as side chains, block B comprises at least one component from the group consisting
of methyl, ethyl, phenyl and vinyl.

13. A surfactant containing an additive,
characterized in that
the additive is an AB block copolymer having a water-soluble block A and a water-
insoluble block B, which is soluble in aliphatic hydrocarbons and in mineral oils.

14. The surfactant according to Claim 13,
characterized in that
it contains an AB block copolymer having the structure according to pattern ABA or
BAB as the additive.

15. The surfactant according to Claim 13 or 14,
characterized in that
block A has a molecular weight between 500 u and 60,000 u.

16. The surfactant according to one of Claims 13 through 15,
characterized in that
block B has a molecular weight between 500 u and 60,000 u.

17. The surfactant according to one of Claims 13 through 16,
characterized in that
block A is a polyethylene oxide.

18. The surfactant according to one of Claims 13 through 17,
characterized in that
block B is a polydiene or an at least partially hydrated polydiene.

19. The surfactant according to Claim 18,
characterized in that
as side chains, block B comprises at least one component from the group consisting
of methyl, ethyl, phenyl and vinyl.

20. The surfactant according to one of Claims 13 through 19,
characterized in that
it is an admixture in a substance.

21. Use of an AB block copolymer having a water-soluble block A and a water-insoluble block B, which is soluble in aliphatic hydrocarbons and in mineral oils, as an additive for a surfactant, detergent, cosmetics or food products.
22. Use of an AB block copolymer according to Claim 21,
characterized in that
an AB block copolymer having a water-soluble block A with a molecular weight between 500 u and 60,000 u is used.
23. Use of an AB block copolymer according to Claim 21 or 22,
characterized in that
an AB block copolymer having a water-insoluble block B with a molecular weight between 500 u and 60,000 u is used.
24. Use of an AB block copolymer according to one of Claims 21 through 23,
characterized in that
the AB block copolymer has a polyethylene oxide (PEO) as block A.
25. Use of an AB block copolymer according to one of Claims 21 through 24,
characterized in that
a polydiene or an at least partially hydrated polydiene is used as block B.

26. Use of an AB block copolymer according to one of Claims 21 through 25,
characterized in that
as side chains, block B comprises at least one component from the group consisting
of methyl, ethyl, phenyl and vinyl.

27. Use of an AB block copolymer according to one of Claims 21 through 26,
characterized in that
the AB block copolymer is a compound having the structure according to the pattern
AB, ABA or BAB.

[Translator's note: The pages that follow in the German original, numbered 1 to 14, are part of WO 00/12660 - PCT/DE99/02748 and contain a graph on each page, with the caption "Figure 1 ... Figure 14" underneath the appertaining graph as well as the wording "REPLACEMENT PAGE (RULE 26)" at the bottom of each page.]